The listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 1-13, 26 and 34 without prejudice. Please amend claim 31 as follows:

Listing of Claims:

Claims 1-17 (canceled).

Claim 18 (previously amended): The screening method according to claim 40, wherein the aberrant receptor is isolated from a cell which expresses the gene encoding the aberrant receptor.

Claim 19 (previously amended): The screening method according to claim 40, wherein the aberrant receptor is encoded by a gene in the mammal, the method further comprising the step of selecting the receptor by comparing the gene encoding the aberrant receptor, isolated from a cell of the mammal, with a gene encoding the non-aberrant receptor, prepared from a cell of a mammal of the same species that does not carry the aberrant receptor.

Claims 20-21 (cancelled).

Claim 22 (previously amended): The method according to claim 42, wherein the aberrant receptor, which has substantially changed affinity for substances, is encoded by a gene in the mammal and is isolated from a cell which expresses the gene encoding the aberrant receptor.

Claim 23 (previously amended): The method according to claim 22, wherein the gene encoding the aberrant receptor is selected by comparing the gene encoding the aberrant receptor, prepared from a cell of the mammal, with a gene encoding the non-aberrant receptor, prepared from a cell of a mammal of the same species that does not carry the aberrant receptor.

Claims 24-27 (cancelled).

Claim 28 (previously amended): The method according to claim 39, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 29 (previously amended): The method according to claim 40, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 30 (previously amended): The method according to claim 41, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 31 (currently amended): The method according to claim ~~42~~ 18, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 32 (previously added): The method according to claim 19, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 33 (previously amended): The method according to claim 43, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 34 (cancelled).

Claim 35 (previously amended): The method according to claim 44, wherein the operation activity is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 36 (previously amended): The method according to claim 42, wherein the activity of the signal transduction system of cells is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 37 (previously added): The method according to claim 22, wherein the activity of the signal transduction system of cells is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion.

Claim 38 (previously added): The method according to claim 23, wherein the activity of the signal transduction system of cells is a change in intracellular concentrations of responding substances selected from the group consisting of cAMP, inositol phosphate and calcium ion

Claim 39 (previously added): A method of screening subject substances for a substance capable of causing an aberrant receptor, which has substantially changed affinity for natural substances that have a natural affinity for a non-aberrant receptor, to operate in a manner similar to the non-aberrant receptor comprising:

1) bringing the aberrant receptor into contact with a subject substance, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

2) determining the operation activity of said subject substance on said receptor,

3) bringing the non-aberrant receptor into contact with a natural substance which operates the non-aberrant receptor and does not operate the aberrant receptor,

4) determining the operation activity in (3), and

5) comparing the operation activity in step (2) with that of step (4), wherein a similar activity indicates that the subject substance causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor.

Claim 40 (previously added): A method of screening subject substances for use in treatment of a disease in a mammal caused by an aberrant receptor, which has substantially changed affinity for natural substances that have a natural affinity for a non-aberrant receptor, comprising:

1) bringing the aberrant receptor into contact with a subject substance, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

2) determining the operation activity of said subject substance on said receptor,

3) bringing the non-aberrant receptor into contact with a natural substance which operates the non-aberrant receptor and does not operate the aberrant receptor,

4) determining the operation activity in (3),

5) comparing the operation activity in step 2) with that of step 4), wherein a similar activity indicates that the subject substance causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor, and

6) selecting a subject substance that causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor, wherein the substance can be used to treat a disease caused by the aberrant receptor.

Claim 41 (previously added): A method of screening for a drug for restoring normal function to a signal transduction system of a cell having an aberrant receptor of a mammal suffering from a disease caused by the aberrant receptor which affects the signal transduction system of the cell, which comprises:

1) bringing the aberrant receptor into contact with a subject substance, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

2) determining the activity of said subject substance on said receptor,

3) bringing the non-aberrant receptor into contact with a natural substance which operates a non-aberrant receptor and does not operate the aberrant receptor,

4) determining the operation activity in (3),

5) comparing the operation activity in step 2) with that of step 4), wherein a similar activity indicates that the subject substance causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor, and

6) selecting a subject substance that causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor, wherein the activity is an activity that restores the normal function of the cell.

Claim 42 (previously added): A method of preparing a substance for treatment of a disease in a mammal caused by an aberrant receptor having a substantially changed affinity for natural substances, which results in the substantial reduction in activity of the signal transduction system of cells having the aberrant receptor, the method comprising:

bringing the aberrant receptor into contact with a subject substance, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

assaying the activity of said subject substance on the aberrant receptor,

selecting a subject substance that substantially operates the signal transduction system of the cell having the aberrant receptor wherein said activity is activity that increases activity of the signal transduction system of the cell,

and admixing the selected substance with a pharmaceutically acceptable carrier.

Claim 43 (previously added): A method of screening for a substance capable of causing an aberrant receptor, which has substantially changed affinity for natural substances, to operate in a manner similar to a non-aberrant receptor comprising:

(1) expressing in a cell the gene encoding the aberrant receptor,

(2) isolating the aberrant receptor from the cell,

(3) providing a subject substance to the aberrant receptor, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

(4) determining the operation activity of the subject substance on the receptor, and

(5) bringing the non-aberrant receptor into contact with a natural substance which operates the non-aberrant receptor and does not operate the aberrant receptor,

(6) determining the operation activity in (5),

(7) comparing the operation activity in step 4) with that of step 6), wherein a similar activity indicates that the subject substance causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor.

Claim 44 (previously amended): A method of screening for a substance capable of causing an aberrant receptor, which has substantially changed affinity for natural substances that have a natural affinity for a non-aberrant receptor, to operate in a manner similar to a non-aberrant receptor comprising:

(1) providing cells expressing the gene encoding the aberrant receptor,

(2) providing a subject substance to be screened to the cells expressing the aberrant receptor, said subject substance comprising a synthetic compound which substantially fails to operate the non-aberrant receptor,

(3) determining the operation activity of said subject substance on said receptor,

(4) providing cells expressing the gene encoding the non-aberrant receptor,

(5) providing to the cells expressing the non-aberrant receptor a natural substance which operates the non-aberrant receptor and does not operate the aberrant receptor,

(6) determining the operation activity in (5), and

(7) comparing the operation activity in step (3) with that of step (6), wherein a similar activity indicates that the subject substance causes the aberrant receptor to operate in a manner similar to the non-aberrant receptor.